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ABSTRACT

In this experiment, the effects of attainment or nonattainment of self-set goals are assessed in individuals of three ethnic groups (white, black and Mexican-American), both pre- and post-desegregation. The method used to test level of expectation, actual performance, and reactions to success or failure is a simple ring toss game. Subjects varied the difficulty of the task by standing at various distances from the target peg, indicated their expected performance on the task, and tossed the rings. On consecutive trials and across years, the subjects' patterns of dealing with their actual performances were recorded. Mexican-American subjects, on the whole, are most capable on the ring toss task and have the most realistic expectations; white subjects overestimate the most and have the lowest actual scores. Ethnic group differences on these variables decrease after desegregation. Mexican-American subjects were found to have a more realistic increase in confidence following desegregation; and black children, highest in expectations, showed an overall decrease in anxiety. [Not available in hard copy due to marginal legibility of original document.] (Author/JW)

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LEVEL OF EXPECTATION, ACTUAL PERFORMANCE, AND REACTIONS TO SUCCESS AND FAILURE IN THREE ETHNIC GROUPS[1]

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Goals and goal-directed behavior are important variables in motivational theory. In the Riverside School Study, the effects of attainment or nonattainment of self-set goals was assessed in individuals of the three ethnic groups, both pre- and postdesegregation, by means of a simple ring toss game. Subjects varied the difficulty of the task by standing at various distances from the target peg, indicated their expected performance on the task, and tossed the rings. On consecutive trials and across years, the subjects' patterns of dealing with their actual performances were recorded. As will be seen, Mexican-American subjects on the whole are most capable on the ring toss task, and have the most realistic expectations; White subjects overestimate the most and have the lowest actual scores. Ethnic group differences on these variables, however, decrease after desegregation.

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Our ring toss measure of level of expectation follows a long tradition of the study of "level of aspiration," a term coined by Dembo in 1930. In 1935, Frank developed the now-standard quantitative technique for the

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experimental measurement of level of aspiration: level of aspiration was defined as "the level of future performance in a familiar task which an individual...explicitly undertakes to reach" (Frank, 1935, p. 119). Commonly, the performance goal (level of aspiration) is expressed verbally by the individual prior to his next performance. It is assumed that reaching the goal constitutes success and not reaching it, failure. Success or failure is represented quantitatively by an "attainment discrepancy" score--the algebraic difference between an individual's goal and actual performance for a particular performance. A second commonly used score is that of "goal discrepancy"--found by computing the algebraic difference between an individual's expected score for a single trial and his actual performance on the preceding trial; a positive score indicates expectations higher than previous performance and thus may be a measure of striving for improvement.

The first studies of level of aspiration defined the concept with reference to goals or hopes of the individual; later work (including the present study) has departed from this definition and has measured expectations or predictions. These instructional variations have been found to be crucial (Fryer, 1964). "Hope" instructions are apt to elicit higher and more rigid level of aspiration scores, while "expect" instructions result in more realistic and moderate levels of aspiration, that are more flexible and responsive to changes in performance. In the present study we chose to emphasize expectations so that goals would be more responsive to actual performance and its changes across years.

A variety of tasks has been utilized in level of aspiration and level of expectation studies. These include psychomotor tasks (such as the ring toss game used here), manipulation tasks, manual skill development tasks, cognitive tasks (verbal and nonverbal), athletic participation, and college

examinations. In the present experiment, since cross-ethnic group comparisons would be made, the ring toss psychomotor task was chosen in the hope that it would be a "culture-fair" instrument; that is, independent of the usual bias against minority ethnic groups common in achievement and intelligence tests, This independence has apparently been reached: actual performance on the ring toss task is uncorrelated with both the verbal and performance subscales of the WISC IQ test (average Pearson r= -.03). For comparison purposes, a cognitive-perceptual dot counting task has been developed fo. the third year of data collection.

In the present experiment, ethnic group differences in level of expectation predesegregation were anticipated, though the direction of the differences was not predicted. Of major interest was the interaction of initial levels of expectation with the desegregation experience: a "successful" integration experience should lead to a gradual convergence in goal-setting behavior, while disruptive effects of desegregation would show up as performance loss or lack of improvement with practice, unrealistically high or low expectations, or low confidence levels among any one or all of the ethnic groups.

Method

Subjects run individually by a single experimenter were given the task of tossing rings at a target peg set on the floor; there were 11 trials in all, with 9 rings thrown per trial. On trials 1, 5, 8, and 11 the child chose how close to the peg he wished to stand for his throws; distance was marked off on the floor by 9 pieces of tape, each setting off an 18-inch interval. For each trial the child estimated how many of the 9 rings he would get on the peg, and then threw the rings one at a time. The number of rings on the peg was recorded as his actual score for that trial. The experimenter praised the child's

performance following each trial. On trials 2, 3, and 4 distance from the peg was standardized according to the child's grade level in the first year of data collection: at line 2 (36 inches) for the kindergarten through third grade group and at line 4 (72 inches) for the fourth through sixth grade group. For simplicity sake, the actual and expected data for these trials only will be reported here, with data for both distances combined. An attainment discrepancy score is derived from the expected and actual scores on the 3 standardized trials; this measure of success and failure is computed by subtracting actual performance from expected performance such that a positive score indicates overestimation. A goal-discrepancy score (the difference between a subject's expected score and his actual performance on the preceding trial) was also computed for the standardized trials, but since there were no significant ethnic group or ethnic group by year effects for this dependent variable, the data will not be presented here.

The subject population used in the analysis of the level of expectation data is a selected subsample of the Riverside School Study population. The sample selected is one that assures that all year one data comes from children predesegregation, and that all year two data is for children who have experienced one year of integration. In total, the sample consists of 715 White children, 371 Mexican-American children, and 238 Black children. In addition, there is a special sample of Mexican-American children (N=147) that remained in a segregated ("barrio") school after the other one-half of the school was desegregated with the rest of the Riverside elementary school children. The Mexican-American parents in the barrio school district were not favorable to the idea of desegregation; they did not seek entry into the White society but instead wanted to preserve their identity as a subculture. The existence of this special sample makes possible some specific comparisons for the

Mexican-American children of the effects of desegregation as opposed to remaining in a closed barrio environment.

Results

The basic independent variables used in analysis are the factors of grade, sex, ethnic group, and year (pre-, postdesegregation). The grade and sex factors in the context of this study are basically control variables and can be summarized first so that ethnic group and year by ethnic group interactions can be more easily seen.

Both the grade and sex main effects are remarkably consistent across each dependent measure, year, and individual trial. In general, older males stand farthest from the target peg in distance choice, and on the standardized trials have the highest expectations and the highest actual performance. These effects in each case are highly significant ($p < .01$) by analysis of variance. There is also a consistent but nonsignificant tendency for males to have the largest attainment discrepancies; there is no consistent grade effect for this dependent variable.

For both years one and two, Black subjects have the highest expectations, while the Mexican-American subjects have the lowest (see Figure 1). These differences are small, however, and reach significance only in year one, that is, predesegregation ($F=4.2$, 2/1238 df, $p < .05$). The higher expectations on the part of the Black children is in agreement with work Dr. Green has done on racial awareness and stereotypes of the Riverside School Study children. All three ethnic groups tend to pick Black children as physically superior ("faster, stronger"), and apparently this perception applies to the ring toss game. Boyd (1952) has also found Black children to have higher expectations when compared to Whites on a performance task. Within years one and two, the ethnic

group differences in expectations are greatest for trial 2 and decrease across trials 2, 3, and 4 as experience is gained at the task. Across years there is a large, significant increase in expectations ($F=112.6$, 1/1086 df, $p < .01$). The year by ethnic group interaction is nonsignificant, though the White children do show a slightly larger increase in expectations. Desegregation seems not to have had any appreciable effect upon this type of verbally expressed confidence estimate.

In contrast to the data for expectations, a number of consistent significant ethnic group differences are apparent in the actual performance scores (see Figure 2). For both years Mexican-American subjects consistently perform at a higher level than the other two ethnic groups. In year one, Mexican-American subjects have the highest actual score, followed by the Black subjects, with the White subjects performing at the lowest level ($F=25.1$, 2/1238 df, $p < .01$). The significant F in this analysis is due primarily to the Mexican-American-White subject difference, as the Mexican-American-Black difference is not significant by t-test.

In year two (postdesegregation), Mexican-American subjects remain superior to the other ethnic groups, but the margin of superiority (the size of the F-ratios) has decreased ($F=13.0$, 2/1093 df, $p < .01$). In the second year the White subjects slightly surpass the Black subjects, though the difference is not significant. All three ethnic groups show increases in actual performance across years ($F=72.6$, 1/1088 df, $p < .01$), but the White subjects show the largest improvement by far. This White subject improvement is reflected in the year by ethnic group interaction ($F=4.8$, 2/1088 df, $p < .01$).

Precisely why the minority group children should show less improvement than the White children across years is as yet undetermined. Within each year separately, all three ethnic groups show about the same increase in

actual performance across trials 2, 3, and 4 (the trial by ethnic group interaction is nonsignificant for both years). The lack of improvement shown by the minority group children may be due to disruptive effects of the desegregation experience. This hypothesis can be checked, for the Mexican-American subjects, at least, by comparing the actual performance year two of those Mexican-American subjects in the desegregated schools with those remaining in the segregated barrio school. If the desegregation process has hurt the performance of the Mexican-American subjects their actual scores should be lower than those of the barrio subjects. This, however, is not the case: there are no significant differences between these two groups in actual performance. Apparently the desegregation experience is not the critical variable effecting improvement across years.

Alternatively, the smaller amount of actual performance improvement shown by the minority group children may be due only to a ceiling effect; that is, the Black, and especially the Mexican-American subjects were probably close to the upper limit in performance on the ring toss task in the first year of data collection, making further improvement difficult. The White subjects, being considerably lower in the first year, would find improvement relatively easier. The clearest indication of the operation of a ceiling effect would lie in a further convergence in the third year of data collection.

With small differences in expected performance across ethnic group, and in light of the actual performance superiority of the Mexican-American subjects, it is not surprising to find that Mexican-American subjects overestimate their performance least, that is, have the smallest attainment discrepancies (see Figure 3). In year one White children substantially overestimate their actual performance, followed by the Black and Mexican-American children ($F=10.6$, 2/1238 df, $p<.01$). Within each year taken separately, all three ethnic groups decrease

attainment-discrepancy scores across trials, but across years there is a significant increase in overall attainment discrepancy ($F=7.3$, 1/1086 df, $p<.01$). The White children show a slight decrease in overestimation, but the year by ethnic group interaction does not reach an acceptable level of significance ($F=2.2$, 2/1086 df, $p<.10$). In the second year (that is, postdesegregation) Mexican-American subjects again have the smallest attainment discrepancy scores, with Black subjects having the largest attainment discrepancy scores, though not significantly greater than that of the White children.

The Mexican-American subjects appear not to demand as much of themselves on the ring toss task; they exhibit at the same time the lowest expectations and the highest actual performance. Within each year, and across the three standardized trials, the Mexican-American subjects do increase their expectations slightly, but not so much as to have higher expectations than the other two ethnic groups. The Mexican-American subjects are essentially more conservative in their reactions to their actual performance, and as a result have the most accurate expectations.

Year one distance data (see Figure 4) presents Mexican-American subjects as most confident: they stand on the average farthest away from the target peg; White subjects stand closest, with Black subjects intermediate in distance ($F=3.3$, 2/1206 df, $p<.05$). The Mexican-American subjects' confidence appears justified, for they perform about as well as the other ethnic groups even though they are throwing from a greater distance. There is a highly significant overall increase in distance in the second year of data collection ($F=126.1$, 1/1206 df, $p<.01$) indicating a general increase in confidence on the ring toss task. Although the year by ethnic group interaction is not significant ($F=1.2$, 2/1206 df, NS), the three ethnic groups do not show equal increases: White subjects show the greatest increase in distance, Mexican-American

subjects the least. In year two there is a highly significant ethnic group effect for distance ($F=4.6$, 2/1282 df, $p<.01$) in which the ordering of the respective ethnic groups is completely reversed. Here, White subjects stand farthest from the target peg, Mexican-American subjects stand closest. The lack of significance of the year by ethnic group interaction is likely due to the fact that for the distance dependent variable, within-cell variance nearly triples in the second year, and approximately equally for all three ethnic groups. Apparently this increase in within-cell variance represents the "input" of the desegregation experience.

This supposition can be checked by the direct comparison of distance scores of those Mexican-American subjects participating in the desegregation plan with those remaining in the barrio school through the second year of data collection. If the desegregation experience has had any debilitating effects upon the Mexican-American subjects, their distance scores in year two should be lower than those of the Mexican-American subjects remaining in the segregated (barrio) school. In fact, however, the barrio Mexican-American subjects show a <u>decrease</u> in distance scores across years, and within-cell variance remains approximately the same in both years. The year by desegregation group interaction here is highly significant ($F=19.3$, 1/471 df, $p<.01$) as well as the desegregation group main effect ($F=24.1$, 1/287 df, $p<.01$). This comparison makes the desegregation experience appear beneficial for the Mexican-American subjects, even though they show less of a distance (confidence) increase than the other two ethnic groups. The smaller increase in distance across years by the Mexican-American subjects can again perhaps be explained by their characteristically conservative approach to the ring toss task. Mexican-American subjects taking part in the desegregation process, however, apparently pick up motivation for setting higher goals and striving harder

on performance tasks. This motivation seems to be at least partly absent in the segregated barrio school.

In sum, the effects of desegregation upon level of expectation for the three ethnic groups can be characterized as follows:

1. Integration has clearly not hurt the performance of the White children; their expectations, actual performance and confidence (as reflected in the distance choice) all increase across years, while the amount overestimated (attainment discrepancy) decreases slightly. The increase in confidence appears to be a realistic one in light of actual performance improvement. In the second year, taking the distance choice trials (1, 5, 8, and 11) separately, the White children consistently choose to stand farthest from the target peg, and the ethnic group effects are significant ($p < .05$ or better) by analysis of variance in each case. Yet, their actual performance on these trials is approximately equivalent to that of the other two ethnic groups, so that ethnic group main effects for actual scores are nonsignificant.

2. Mexican-American subjects are clearly the best performers on the ring toss task in year one, but compared to the other two ethnic groups, do not improve as much across years. The initial margin of superiority in actual scores is large enough so that they still perform best in the second year on the standardized trials, but their conservative distance choice in the second year does not reflect their actual ability. The lack of actual performance improvement in the second year can perhaps be best explained in terms of a ceiling effect, but the distance data appears to indicate a possible deleterious effect of desegregation. However, special comparison of segregated-desegregated Mexican-American subjects indicates that the subjects who have remained in the segregated barrio school show an actual decrease in distance choice across years. From this comparison, it appears that desegregation has had some definite

benefits for the Mexican-American subjects, at least insofar as they approach the second year with a more realistic increase in confidence. The whole of the barrio school will be desegregated for the third year of data collection, and at that time the previously segregated Mexican-American children should show confidence increases, if our ideas are correct.

3. Black children consistently have the highest expectations of the three ethnic groups; this agrees with some other work on the Riverside School Study, and with some previous experimental work. On the other dependent variables (actual performance, attainment discrepancy, distance), the Black children are generally closest to the mean for the group as a whole. The Black children do show the smallest increase in actual performance across years; this may be due to a ceiling effect (as was probably the case for the Mexican-American subjects), or there may have been negative effects of the desegregation experience that interfere with actual performance of the Black children. Unfortunately, we do not have a special preintegrated sample of Black children to make comparisons with, so that this possibility remains tentative. Two undisguised measures of "general" and "school" anxiety reveal an overall <u>decrease</u> in anxiety across years, with Black children intermediate between the other two ethnic groups in both years (Mexican-American subjects have the highest anxiety scores on both measures). A third year of data collection will be needed to determine desegregation effects more clearly for the Black children.

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Figure 1

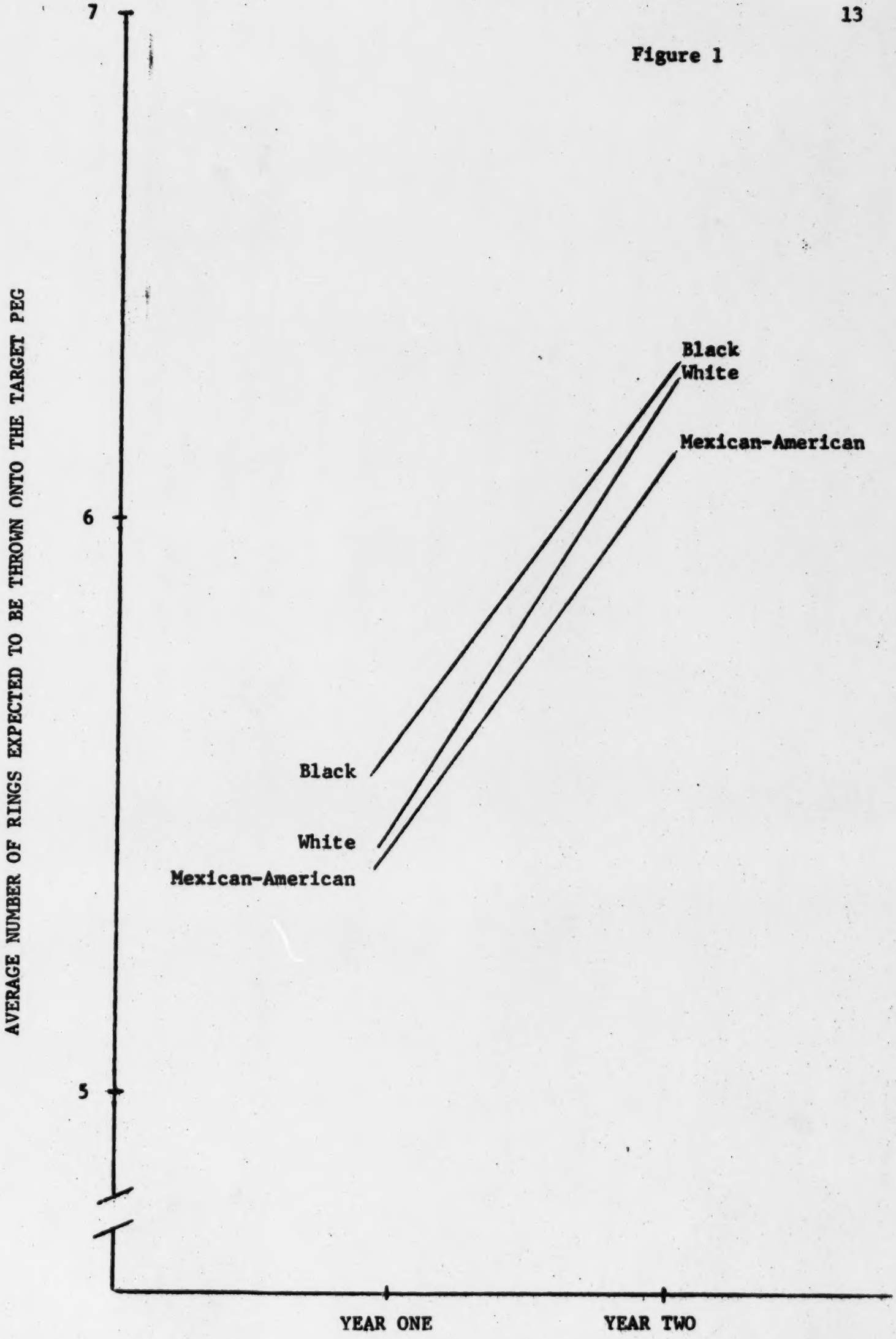

AVERAGE NUMBER OF RINGS EXPECTED TO BE THROWN ONTO THE TARGET PEG
7
6
5
Black
White
Mexican-American
Black
White
Mexican-American
YEAR ONE
YEAR TWO

Figure 2

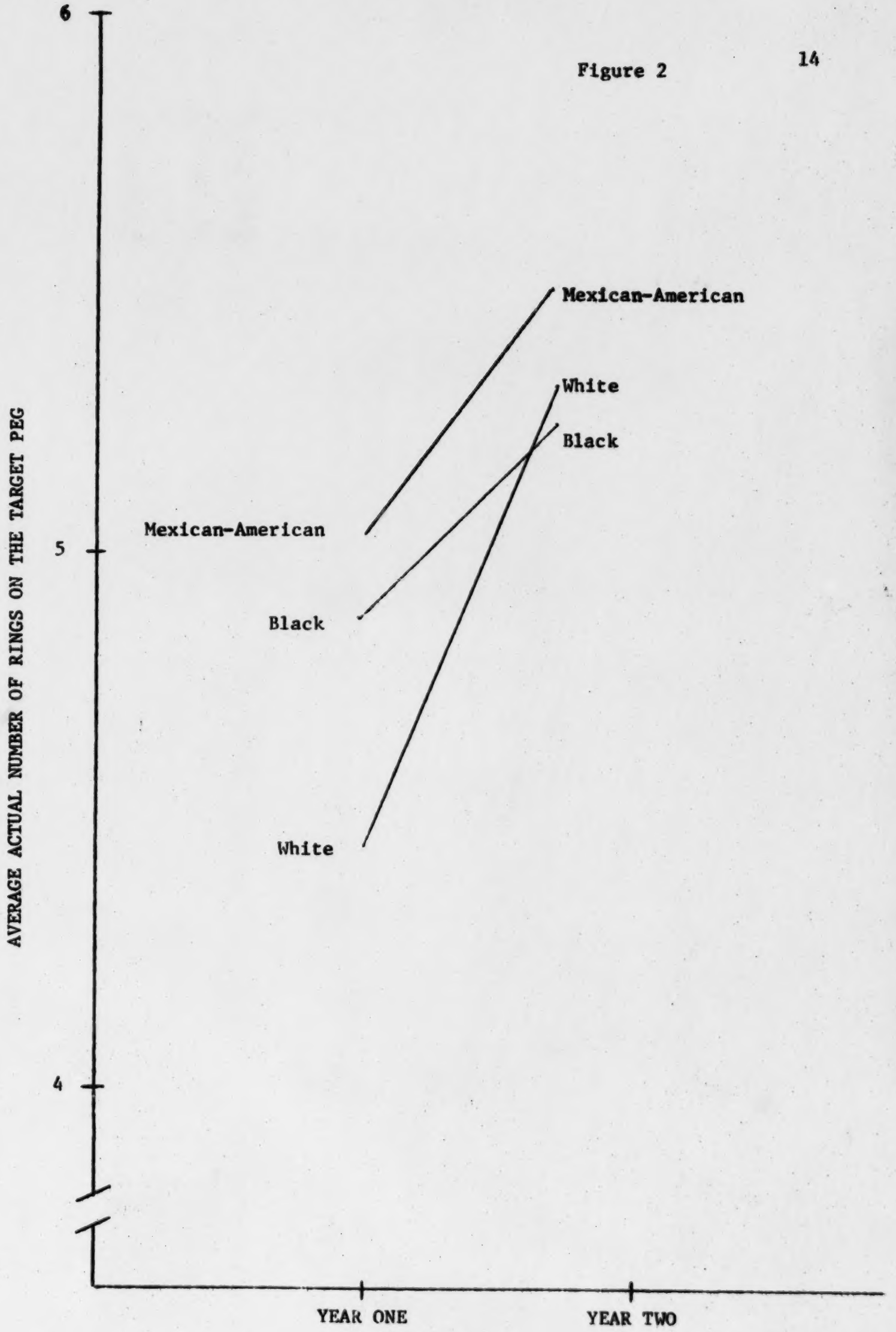

6
5
4
AVERAGE ACTUAL NUMBER OF RINGS ON THE TARGET PEG
Mexican-American
White
Black
Mexican-American
Black
White
YEAR ONE
YEAR TWO

Figure 3

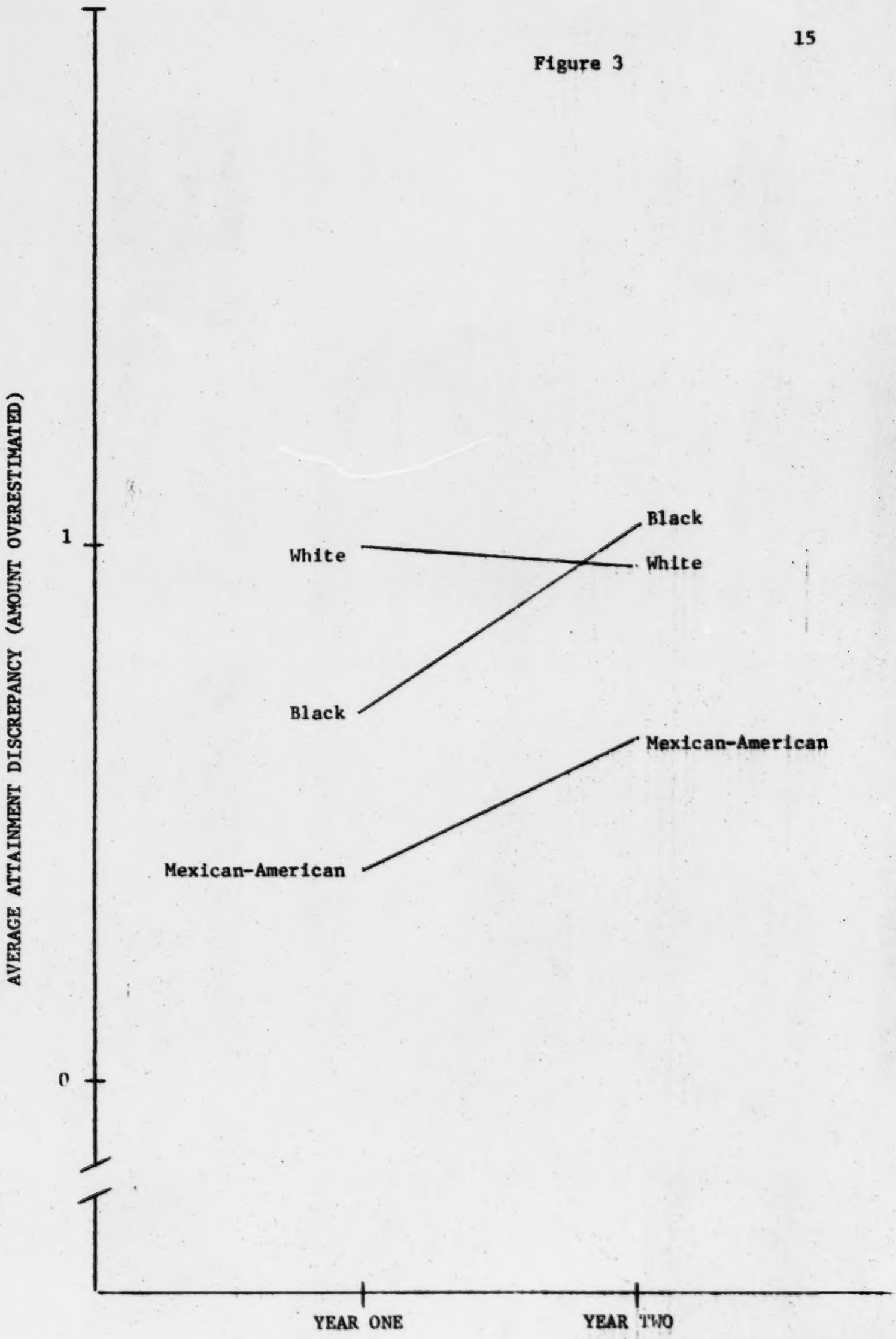
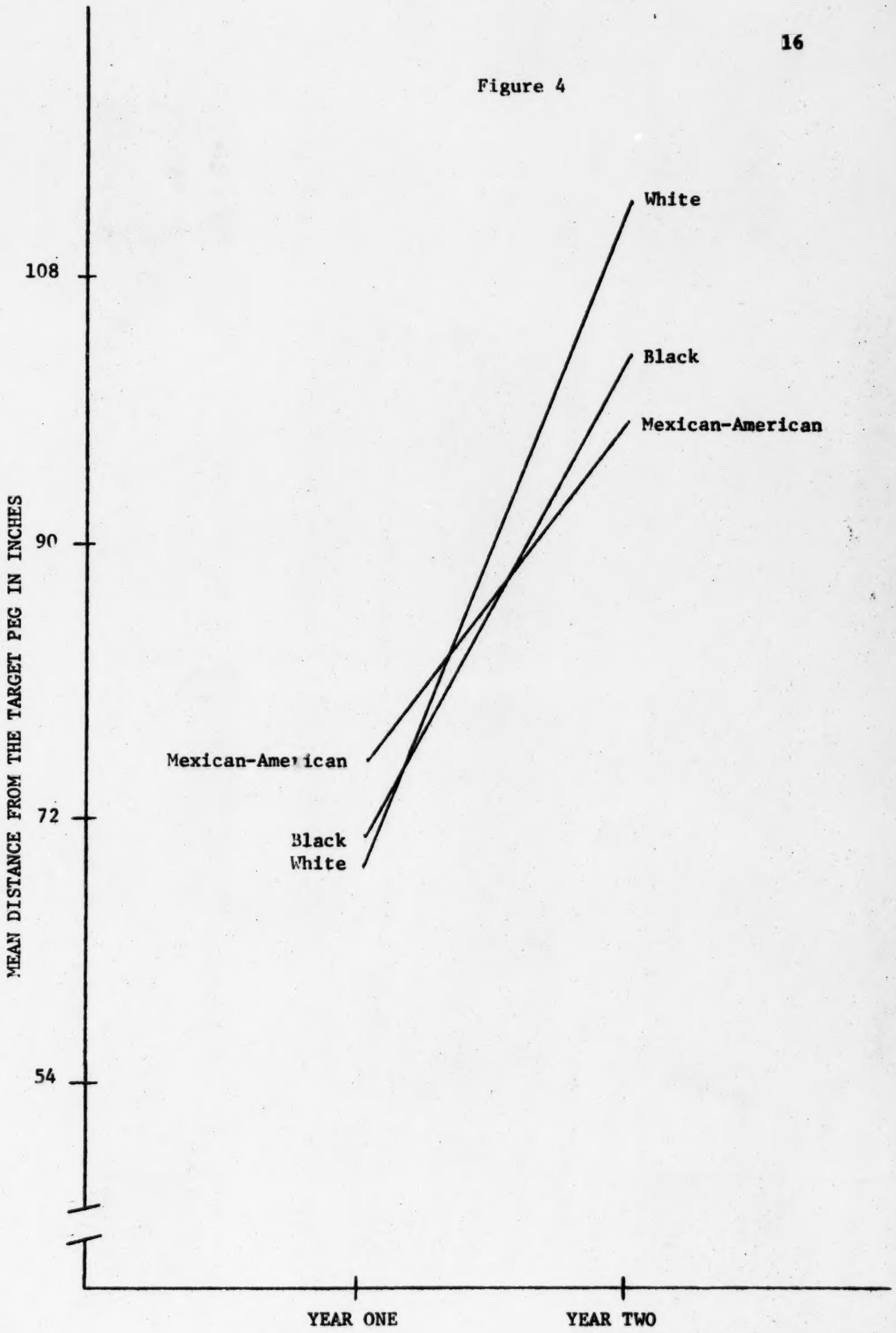

AVERAGE ATTAINMENT DISCREPANCY (AMOUNT OVERESTIMATED)
1
0
Black
White
White
Black
Mexican-American
Mexican-American
YEAR ONE
YEAR TWO

Figure 4


MEAN DISTANCE FROM THE TARGET PEG IN INCHES
108
90
72
54
White
Black
Mexican-American
Mexican-American
Black
White
YEAR ONE
YEAR TWO